Macular Society
Beating Macular Disease

Macular telangiectasia type 1 (MacTel)

More often known as an acquired capillary ectasia (i.e. a focal expansion or outpouching) and dilation in the parafoveal region, leading to vascular incompetence. The telangiectatic vessels develop micro-aneurysms, which subsequently leak fluid, blood, and occasionally, lipid. Some have described Macular telangiectasia type 1 as a variant of Coats' disease, which is defined by extensive peripheral retinal telangiectasis, exudative retinal detachment, relatively young age of onset, and male predilection. While the precise etiology is unknown, it has been speculated that chronic venous congestion caused by obstruction of the retinal veins as they cross retinal arteries at the horizontal raphe may be a contributory factor.

Macular telangiectasia type 2 (MacTel)

Macular telangiectasia type 2 (MacTel) is a disease of the retina, the light-sensing tissue at the back of the eye. MacTel leads to a gradual deterioration of central vision, which becomes noticeable to people around 50-60 years of age. The average age of diagnosis for MacTel patients is 57 years old.

The gradual loss of central vision people experience because of MacTel has a significant impact on quality of life. This is because central vision is required for tasks that require sharp vision, like reading and driving. In MacTel, the quality of a person’s central vision decreases over time.

Macular telangiectasia type 2 is a bilateral disease, which means that both eyes are affected. However, the disease does not necessarily affect both eyes equally. It may progress more quickly in one eye than the other. A person with MacTel may

see more clearly with one eye than the other. The disease may become apparent earlier in one eye than the other.

Macular telangiectasia type 2 affects a well-defined area of the retina, which is referred to as the “MacTel zone.” This is an oval-shaped area centred on the fovea. The fovea is contained within the macula, the central area of the retina. The fovea is the focal point for light entering the eye. It is the region of the retina with the highest density of cone photoreceptor cells. Humans rely heavily on the fovea to construct a clear picture of their surroundings. In fact, about half of the nerve fibres traveling from the retina to the brain carry information from the fovea. In the course of MacTel, photoreceptors in and around the fovea die.

Research

As laser treatment and anti-VEGF injections are usually ineffective in treating MacTel, there is ongoing research into the condition.

The Lowy Medical Research Institute (LMRI) is a non-profit research organisation dedicated to the study of MacTel, and is a resource for MacTel patients. LMRI sponsors clinical and laboratory research, including the MacTel Project, a natural history study and registry of MacTel patients. More than 60 centres around the world participate in the MacTel Project, making the search for information a global effort. By enrolling in the MacTel Project Registry, patients help advance MacTel research and may have the chance to participate in clinical research.

Currently, a Phase 3 trial is enrolling MacTel patients to study the effect of Renexus®, a therapy delivering a protein called CNTF to the retina. In the UK, this trial is enrolling in London and Oxford.

macularsociety.org
0300 3030 111

Macular Society
Beating Macular Disease

If you think you or someone you know may have MacTel, ask your local eye specialist to consider the diagnosis and refer to a MacTel registry centre.

Further information about the MacTel Project and LMRI's MacTel research can be found at: **lmri.net**